UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,511	03/30/2001	Srinivas Kandala	8371-119	8707

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EXAMINER
SHINGLES, KRISTIE D

ART UNIT	PAPER NUMBER
2141	

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.		Applicant(s)	
Office Action Summary		09/823,511		KANDALA, SRINIVAS	
		Examiner		Art Unit	
		Kristie Shingles		2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 March 2001</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 November 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/30/01 & 8/18/03</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Claims 1-30 are pending.

Priority

1.   Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 120.

The certified copy has been filed in Provisional Application No. 60/233363, filed on 9/18/2000.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims **1-4, 11-14** and **21-24** are rejected under 35 U.S.C. 103(a) as being unpatentable

over *Kobayashi et al* (USPN 6,735,641) in view of *Williams et al* (USPN 5,881,296).

a.   Per claims **1, 11** and **21** (differ only by statutory class) *Kobayashi et al* teach a

device comprising:

- a memory **(col.3 lines 6-9; peripheral equipment management device includes a storage unit)**; and

- a processor coupled with the memory, wherein the processor is adapted to generate a schedule for exchanging data with only a first peripheral device during a first time window, and for exchanging data with only a second peripheral device after the first time window **(col.2 line 45-col.3 line 9, col.5 lines 39-48 and col.9**

lines 17-32; peripheral equipment management device include processing units e.g. job schedule control unit and schedule setting unit—indicative of processors—able to generate and control schedules for exchanging data with specific peripheral devices for a certain time interval);

- transmit at least one multi-poll scheduling frame that encodes the schedule (col.8 line-col.9 line 22, col.11 line 51-col.12 line 63 and col.14 lines 7-27; the scheduling unit transmits the set schedule to other peripheral devices in the process schedule table);

- exchange data with the first peripheral device after the scheduled first time window starts (col.12 line 36-col.13 line 63; data is exchanged with one peripheral device at the scheduled start time);

- complete exchanging data with the first peripheral device before the first time window ends (col.13 line 58-col.14 line 6; the "execution completed" flag indicates the end of the process/data exchange, the timer unit keeps track of this time).

Yet, *Kobayashi et al* fail to explicitly teach then transmitting a rescheduling frame and then exchanging data with the second peripheral device before the first time window ends. However, *Williams et al* teach issuing reschedules for interrupts during delay intervals while exchanging data with a first peripheral device and then transmitting or exchanging data/interrupts with another peripheral device possibly before the delay interval ends (col.5 line 14-col.6 line 33 and col.8 line 21-col.9 line 66).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of *Kobayashi et al* and *Williams et al* for the purpose of permitting a scheduling unit that transmits schedules and also reschedules data exchanges because it would reduce interrupts, conflicting and concurrent transmissions that monopolize the processor's time and resources while also insuring data is not lost due to scheduling conflicts.

b.   Per claims **2, 12,** and **22** (differ only by statutory class) *Williams et al* teach the device of claim 1, wherein the rescheduling frame is a null frame **(col.5 lines 14-25; the delay field for rescheduling may be set to zero indicating rescheduling immediate)**.

c.   Per claims **3, 13** and **23** (differ only by statutory class) *Kobayashi et al* teach the device of claim 1, wherein the generated schedule provides for exchanging data with only the second peripheral device during a second time window, and that the second time window alternate with the first time window according to a periodicity, and the processor is further adapted to: encode data about the periodicity in the multi-poll scheduling frame **(col.8 lines 28-48 and col.14 lines 7-30; the peripheral equipment device allows for exchanging data with other peripheral devices in the process schedule timetable, data regarding the periodicity is maintained in the process schedule timetable)**.

d.   Claims **4, 14** and **24** are substantially similar to claims 2, 12 and 22 respectively, and are therefore rejected under the same basis.

4.   Claims **5, 6, 8, 9, 15, 16, 18, 19, 25, 26, 28** and **29** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ross et al* (USPN 5,909,594) in view of *Fox* (USPN 5,890,134).

a.   Per claims **5, 15** and **25** (differ only by statutory class) *Ross et al* teach a device comprising:

- a memory **(col.10 line 65-col.11 line 18, col.11 lines 43-52 and col.18 lines 4-13; memory and storage are apparent)**; and

- a processor coupled with the memory, wherein the processor is adapted to receive at least one multi-poll scheduling frame **(col.10 line 35-col.11 line 18; the processing unit of the system is able to receive packets with scheduling instructions for determining their priority according to the priority scheduling process)**;

- decode from the received multi-poll scheduling frame a schedule for a first time window and for a subsequent second time window during which to exchange data **(col.11 lines 6-10; decoding of the information in the file descriptor that accompanies each file request determines the priority designation and whether a data exchange is deemed high or low priority);**

Yet *Ross et al* fail to explicitly teach during the first time window, receive a rescheduling frame; reschedule the second time window in response to the rescheduling frame; and then exchange data during the rescheduled second time window before the first time window ends. However, *Fox* teaches a receipt of rescheduling operations via user's command/user interface. The rescheduling process is implemented according to a set completion time wherein, subsequent task are chronologically reordered and data is exchanged before the end of the completion time **(col.3 lines 27-59, col.5 lines 5-59, col.6 lines 11-52, col.7 line 28-col.8 line 9 and col.13 lines 4-9)**.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of *Ross et al* and *Fox* for the purpose of permitting the processor to receive scheduling and rescheduling data because it would allow input of scheduling/rescheduling data via a user interface or other device as opposed to the processor generating it's own scheduling/rescheduling process, thus users and other devices would have the ability to modify scheduled processing events according to their preferences.

b.   Per claims **6, 16** and **26** (differ only by statutory class) *Fox* teaches the device of claim 5, wherein the second time window is rescheduled to start immediately after the rescheduling frame **(col.3 lines 27-59 and col.9 line 2-col.10 line 44; upon rescheduling, subsequent tasks of the preliminary schedule may be rescheduled with new start times for**

immediate execution, or may retain their chronological order from the preliminary schedule ordering).

c.   Per claims **8, 18** and **28** (differ only by statutory class) *Fox* teaches the device of claim 5, wherein the processor is further adapted to: decode from the received multi-poll scheduling frame periodicity data about alternating the first time window and the second time window **(Fig.1-3 and col.5 line 37-col.10 line 65; the scheduling system allows for alternating and rearranging scheduled time slots).**

d.   Claims **9, 19** and **29** are substantially similar to claims 6, 16 and 26 respectively, and are therefore rejected under the same basis.

5.   Claims **7, 10, 17, 20, 27** and **30** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ross et al* and *Fox* in view of *Williams et al* (USPN 5,881,296).

a.   Per claims **7, 17** and **27** (differ only by statutory class) *Ross et al* and *Fox* teach the device of claim 5 as applied above, yet fail to distinctly teach device of claim 5, wherein the rescheduling frame is a null frame. However, *Williams et al* teach the feature of a rescheduling delay field being set to zero, to signify immediate processing, execution or exchange of data **(col.5 lines 14-25).**

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of *Ross et al* and *Fox* with *Williams et al* for the purpose of allowing for the immediate rescheduling of event to happen without delay or without providing an alternate start time, because it would maximize the system's time management and decrease the chances of losing time-sensitive data by offering an option to permit immediate

processing of the data without prolonging the delay interval, in case the data happened to be

time-sensitive.

      b.   Claims **10, 20** and **30** are substantially similar to claims 7, 17 and 27 respectively,

and are therefore rejected under the same basis.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

      a.   *Wright et al* (USPN 5,918.074) disclose a system architecture for and method of dual path data processing and management of packets and/or cells and the like.

      b.   *Thomas et al* (USPN 5,941,952) disclose an apparatus and method for transferring data from a transmit buffer memory at a particular rate.

      c.   *Ronkka et al* (USPN 6,631,394) disclose an embedded system with interrupt handler for multiple operating systems.

      d.   *Dean et al* (USPN 6,167,379) disclose a system for users to accept or decline updating a calendar remotely with a proposed schedule update that may have schedule confliction.

7.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kristie Shingles whose telephone number is 571-272-3888. The

examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rupal Dharia can be reached on 571-272-3880. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kristie Shingles
Examiner
Art Unit 2141

kds